

## SEQUENCE LISTING

<110> FITZGERALD, STEPHEN NOEL  
 FAGAN, RICHARD JOSEPH  
 POWER, CHRISTINE  
 YORKE, MELANIE  
 BIENKOWSKA, JADWIGA

<120> ISOLATED INSP163 PROTEIN

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<140> US 10573,936

<141> 2006-03-30

<150> GB 0325038.8

<151> 2003-10-27

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<211> 846

<212> DNA

<213> Homo sapiens

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20          25          30

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Gly Leu Pro Glu Ala Pro Lys Pro Ser Gln Ala Ser Gly Pro Glu Phe  
           35                          40                          45  
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           50                          55                          60  
 Gly Ala Leu Arg Lys Arg Cys Gly Ser Arg Asp Lys Lys Pro Arg Asp  
   65                          70                          75                          80  
 Leu Phe Gly Pro Pro Gly Pro Pro Gly Ala Glu Val Thr Ala Glu Thr  
                           85                          90                          95  
 Leu Leu His Glu Phe Gln Glu Leu Leu Lys Glu Ala Thr Glu Arg Arg  
           100                          105                          110  
 Phe Ser Gly Leu Leu Asp Pro Leu Leu Pro Gln Gly Ala Gly Leu Arg  
           115                          120                          125  
 Leu Val Gly Glu Ala Phe His Cys Arg Leu Gln Gly Pro Arg Arg Val  
           130                          135                          140  
 Asp Lys Arg Thr Leu Val Glu Leu His Gly Phe Gln Ala Pro Ala Ala  
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 Gln Gly Ala Phe Leu Arg Gly Ser Gly Leu Ser Leu Ala Ser Gly Arg  
           165                          170                          175  
 Phe Thr Ala Pro Val Ser Gly Ile Phe Gln Phe Ser Ala Ser Leu His  
           180                          185                          190  
 Val Asp His Ser Glu Leu Gln Gly Lys Ala Arg Leu Arg Ala Arg Asp  
           195                          200                          205  
 Val Val Cys Val Leu Ile Cys Ile Glu Ser Leu Cys Gln Arg His Thr  
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 Cys Leu Glu Ala Val Ser Gly Leu Glu Ser Asn Ser Arg Val Phe Thr  
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 Leu Gln Val Gln Gly Leu Leu Gln Leu Gln Ala Gly Gln Tyr Ala Ser  
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 Val Phe Val Asp Asn Gly Ser Gly Ala Val Leu Thr Ile Gln Ala Gly  
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gcccggctgc gggcccggga cgtggtgtgt gttctcatct gtattgagtc cctgtgccag 480
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          20          25          30

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          35          40          45

Glu Arg Arg Phe Ser Gly Leu Leu Asp Pro Leu Leu Pro Gln Gly Ala
          50          55          60

Gly Leu Arg Leu Val Gly Glu Ala Phe His Cys Arg Leu Gln Gly Pro
65          70          75          80

Arg Arg Val Asp Lys Arg Thr Leu Val Glu Leu His Gly Phe Gln Ala
          85          90          95

Pro Ala Ala Gln Gly Ala Phe Leu Arg Gly Ser Gly Leu Ser Leu Ala
          100          105          110

Ser Gly Arg Phe Thr Ala Pro Val Ser Gly Ile Phe Gln Phe Ser Ala
          115          120          125

Ser Leu His Val Asp His Ser Glu Leu Gln Gly Lys Ala Arg Leu Arg
          130          135          140

Ala Arg Asp Val Val Cys Val Leu Ile Cys Ile Glu Ser Leu Cys Gln
145          150          155          160

Arg His Thr Cys Leu Glu Ala Val Ser Gly Leu Glu Ser Asn Ser Arg
          165          170          175

Val Phe Thr Leu Gln Val Gln Gly Leu Leu Gln Leu Gln Ala Gly Gln
          180          185          190

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Tyr Ala Ser Val Phe Val Asp Asn Gly Ser Gly Ala Val Leu Thr Ile  
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Gln Ala Gly Ser Ser Phe Ser Gly Leu Leu Leu Gly Thr  
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 <212> DNA  
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 ctggtgggagc aggcctttca ctgccggctg cagggtcccc gccgggtgga caagcggacg 240  
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 gccagtctgc acgtggacca cagtgcgctg cagggcaagg cccggctgcg ggcccgggac 420  
 gtggtgtgtg ttctcatctg tattgagtcg ctgtgccagc gccacacgtg cctggaggcc 480  
 gtctcaggcc tggagagcaa cagcagggtc ttcacgtac aggtgcaggg gctgctgcag 540  
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 <212> PRT  
 <213> Homo sapiens

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 20 25 30  
 Phe Gln Glu Leu Leu Lys Glu Ala Thr Glu Arg Arg Phe Ser Gly Leu  
 35 40 45  
 Leu Asp Pro Leu Leu Pro Gln Gly Ala Gly Leu Arg Leu Val Gly Glu  
 50 55 60  
 Ala Phe His Cys Arg Leu Gln Gly Pro Arg Arg Val Asp Lys Arg Thr  
 65 70 75 80  
 Leu Val Glu Leu His Gly Phe Gln Ala Pro Ala Ala Gln Gly Ala Phe  
 85 90 95  
 Leu Arg Gly Ser Gly Leu Ser Leu Ala Ser Gly Arg Phe Thr Ala Pro  
 100 105 110  
 Val Ser Gly Ile Phe Gln Phe Ser Ala Ser Leu His Val Asp His Ser  
 115 120 125  
 Glu Leu Gln Gly Lys Ala Arg Leu Arg Ala Arg Asp Val Val Cys Val

130 135 140

Leu Ile Cys Ile Glu Ser Leu Cys Gln Arg His Thr Cys Leu Glu Ala  
145 150 155 160

Val Ser Gly Leu Glu Ser Asn Ser Arg Val Phe Thr Leu Gln Val Gln  
165 170 175

Gly Leu Leu Gln Leu Gln Ala Gly Gln Tyr Ala Ser Val Phe Val Asp  
180 185 190

Asn Gly Ser Gly Ala Val Leu Thr Ile Gln Ala Gly Ser Ser Phe Ser  
195 200 205

Gly Leu Leu Leu Gly Thr  
210

<210> 7  
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<212> DNA  
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agcctggcct	cgggtcgggt	caaggccccc	gtgtccggca	tcttccagtt	ctctgccagt	360
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gctggacagt	acgcttctgt	gtttgtggac	aatggctccg	gggccgtcct	caccatccag	600
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<212> PRT  
<213> Homo sapiens

<400> 8

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35 40 45	
Pro Leu Leu Pro Gln Gly Ala Gly Leu Arg Leu Val Gly Glu Ala Phe	
50 55 60	
His Cys Arg Leu Gln Gly Pro Arg Arg Val Asp Lys Arg Thr Leu Val	
65 70 75 80	

Glu Leu His Gly Phe Gln Ala Pro Ala Ala Gln Gly Ala Phe Leu Arg  
                     85                    90                    95  
 Gly Ser Gly Leu Ser Leu Ala Ser Gly Arg Phe Thr Ala Pro Val Ser  
                     100                    105                    110  
 Gly Ile Phe Gln Phe Ser Ala Ser Leu His Val Asp His Ser Glu Leu  
                     115                    120                    125  
 Gln Gly Lys Ala Arg Leu Arg Ala Arg Asp Val Val Cys Val Leu Ile  
                     130                    135                    140  
 Cys Ile Glu Ser Leu Cys Gln Arg His Thr Cys Leu Glu Ala Val Ser  
                     145                    150                    155                    160  
 Gly Leu Glu Ser Asn Ser Arg Val Phe Thr Leu Gln Val Gln Gly Leu  
                     165                    170                    175  
 Leu Gln Leu Gln Ala Gly Gln Tyr Ala Ser Val Phe Val Asp Asn Gly  
                     180                    185                    190  
 Ser Gly Ala Val Leu Thr Ile Gln Ala Gly Ser Ser Phe Ser Gly Leu  
                     195                    200                    205  
 Leu Leu Gly Thr  
                     210

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 gagagcaaca gcagggtcct cagctacag gtgcaggggc tgctgcagct gcaggctgga 420  
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                     20                    25                    30

Asp Lys Arg Thr Leu Val Glu Leu His Gly Phe Gln Ala Pro Ala Ala  
           35                          40                          45  
 Gln Gly Ala Phe Leu Arg Gly Ser Gly Leu Ser Leu Ala Ser Gly Arg  
           50                          55                          60  
 Phe Thr Ala Pro Val Ser Gly Ile Phe Gln Phe Ser Ala Ser Leu His  
   65                          70                          75                          80  
 Val Asp His Ser Glu Leu Gln Gly Lys Ala Arg Leu Arg Ala Arg Asp  
                           85                          90                          95  
 Val Val Cys Val Leu Ile Cys Ile Glu Ser Leu Cys Gln Arg His Thr  
                          100                         105                         110  
 Cys Leu Glu Ala Val Ser Gly Leu Glu Ser Asn Ser Arg Val Phe Thr  
                          115                         120                         125  
 Leu Gln Val Gln Gly Leu Leu Gln Leu Gln Ala Gly Gln Tyr Ala Ser  
           130                         135                         140  
 Val Phe Val Asp Asn Gly Ser Gly Ala Val Leu Thr Ile Gln Ala Gly  
  145                         150                         155                         160  
 Ser Ser Phe Ser Gly Leu Leu Leu Gly Thr  
                          165                         170

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 <212> DNA  
 <213> Homo sapiens

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 ctgcgggccc gggacgtggt gtgtgttctc atctgtattg agtccctgtg ccagcgccac 240  
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           20                          25                          30  
 Arg Phe Thr Ala Pro Val Ser Gly Ile Phe Gln Phe Ser Ala Ser Leu

35                      40                      45  
 His Val Asp His Ser Glu Leu Gln Gly Lys Ala Arg Leu Arg Ala Arg  
     50                      55                      60  
 Asp Val Val Cys Val Leu Ile Cys Ile Glu Ser Leu Cys Gln Arg His  
     65                      70                      75                      80  
 Thr Cys Leu Glu Ala Val Ser Gly Leu Glu Ser Asn Ser Arg Val Phe  
                     85                      90                      95  
 Thr Leu Gln Val Gln Gly Leu Leu Gln Leu Gln Ala Gly Gln Tyr Ala  
                     100                      105                      110  
 Ser Val Phe Val Asp Asn Gly Ser Gly Ala Val Leu Thr Ile Gln Ala  
                     115                      120                      125  
 Gly Ser Ser Phe Ser Gly Leu Leu Leu Gly Thr  
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<210> 13  
 <211> 405  
 <212> DNA  
 <213> Homo sapiens

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 <212> PRT  
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                     20                      25                      30  
 Pro Val Ser Gly Ile Phe Gln Phe Ser Ala Ser Leu His Val Asp His  
                     35                      40                      45  
 Ser Glu Leu Gln Gly Lys Ala Arg Leu Arg Ala Arg Asp Val Val Cys  
     50                      55                      60  
 Val Leu Ile Cys Ile Glu Ser Leu Cys Gln Arg His Thr Cys Leu Glu  
     65                      70                      75                      80



Ala Val Ser Gly Leu Glu Ser Asn Ser Arg Val Phe Thr Leu Gln Val  
85 90 95

Gln Gly Leu Leu Gln Leu Gln Ala Gly Gln Tyr Ala Ser Val Phe Val  
100 105 110

Asp Asn Gly Ser Gly Ala Val Leu Thr Ile Gln Ala Gly Ser Ser Phe  
115 120 125

Ser Gly Leu Leu Leu Gly Thr  
130 135

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<212> DNA  
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tcccaggcct caggacctga gttctccgac gccacatga catggctgaa ctttgtccgg 180  
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<212> PRT  
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<400> 16  
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20 25 30

Gly Leu Pro Glu Ala Pro Lys Pro Ser Gln Ala Ser Gly Pro Glu Phe  
35 40 45

Ser Asp Ala His Met Thr Trp Leu Asn Phe Val Arg Arg Pro Asp Asp  
50 55 60

Gly Ala Leu Arg Lys Arg Cys Gly Ser Arg Asp Lys Lys Pro Arg Asp  
65 70 75 80

Leu Phe Gly Pro Pro Gly Pro Pro Gly Ala Glu Val Thr Ala Glu Thr  
                             85                            90                            95  
 Leu Leu His Glu Phe Gln Glu Leu Leu Lys Glu Ala Thr Glu Arg Arg  
                             100                            105                            110  
 Phe Ser Gly Leu Leu Asp Pro Leu Leu Pro Gln Gly Ala Gly Leu Arg  
                             115                            120                            125  
 Leu Val Gly Glu Ala Phe His Cys Arg Leu Gln Gly Pro Arg Arg Val  
                             130                            135                            140  
 Asp Lys Arg Thr Leu Val Glu Leu His Gly Phe Gln Ala Pro Ala Ala  
                             145                            150                            155                            160  
 Gln Gly Ala Phe Leu Arg Gly Ser Gly Leu Ser Leu Ala Ser Gly Arg  
                             165                            170                            175  
 Phe Thr Ala Pro Val Ser Gly Ile Phe Gln Phe Ser Ala Ser Leu His  
                             180                            185                            190  
 Val Asp His Ser Glu Leu Gln Gly Lys Ala Arg Leu Arg Ala Arg Asp  
                             195                            200                            205  
 Val Val Cys Val Leu Ile Cys Ile Glu Ser Leu Cys Gln Arg His Thr  
                             210                            215                            220  
 Cys Leu Glu Ala Val Ser Gly Leu Glu Ser Asn Ser Arg Val Phe Thr  
                             225                            230                            235                            240  
 Leu Gln Val Gln Gly Leu Leu Gln Leu Gln Ala Gly Gln Tyr Ala Ser  
                             245                            250                            255  
 Val Phe Val Asp Asn Gly Ser Gly Ala Val Leu Thr Ile Gln Ala Gly  
                             260                            265                            270  
 Ser Ser Phe Ser Gly Leu Leu Leu Gly Thr His His His His His His  
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<210> 17  
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 <212> DNA  
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 caggagctgc tgaaagaggc cacggagcgc cggttctcag ggcttctgga cccgctgctg 180  
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 cgccgggtgg acaagcggac gctggtggag ctgcatggtt tccaggctcc tgctgcccaa 300  
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 tccggcatct tccagtctc tgccagtctg cacgtggacc acagtgagct gcagggcaag 420  
 gcccggtcgc gggcccgga cgtggtgtgt gttctcatct gtattgagtc cctgtgccag 480  
 cgccacacgt gcctggaggc cgtctcaggc ctggagagca acagcagggt cttcacgcta 540

cagggtgcagg ggctgctgca gctgcaggct ggacagtacg cttctgtgtt tgtggacaat 600  
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<210> 18  
 <211> 227  
 <212> PRT  
 <213> Homo sapiens

<400> .18  
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 Pro Arg Asp Leu Phe Gly Pro Pro Gly Pro Pro Gly Ala Glu Val Thr  
 20 25 30  
 Ala Glu Thr Leu Leu His Glu Phe Gln Glu Leu Leu Lys Glu Ala Thr  
 35 40 45  
 Glu Arg Arg Phe Ser Gly Leu Leu Asp Pro Leu Leu Pro Gln Gly Ala  
 50 55 60  
 Gly Leu Arg Leu Val Gly Glu Ala Phe His Cys Arg Leu Gln Gly Pro  
 65 70 75 80  
 Arg Arg Val Asp Lys Arg Thr Leu Val Glu Leu His Gly Phe Gln Ala  
 85 90 95  
 Pro Ala Ala Gln Gly Ala Phe Leu Arg Gly Ser Gly Leu Ser Leu Ala  
 100 105 110  
 Ser Gly Arg Phe Thr Ala Pro Val Ser Gly Ile Phe Gln Phe Ser Ala  
 115 120 125  
 Ser Leu His Val Asp His Ser Glu Leu Gln Gly Lys Ala Arg Leu Arg  
 130 135 140  
 Ala Arg Asp Val Val Cys Val Leu Ile Cys Ile Glu Ser Leu Cys Gln  
 145 150 155 160  
 Arg His Thr Cys Leu Glu Ala Val Ser Gly Leu Glu Ser Asn Ser Arg  
 165 170 175  
 Val Phe Thr Leu Gln Val Gln Gly Leu Leu Gln Leu Gln Ala Gly Gln  
 180 185 190  
 Tyr Ala Ser Val Phe Val Asp Asn Gly Ser Gly Ala Val Leu Thr Ile  
 195 200 205  
 Gln Ala Gly Ser Ser Phe Ser Gly Leu Leu Leu Gly Thr His His His  
 210 215 220  
 His His His  
 225

<210> 19  
 <211> 660  
 <212> DNA  
 <213> Homo sapiens

<400> 19  
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 ggtgcagaag tgaccgcgga gactctgctt cacgagtttc aggagctgct gaaagaggcc 120  
 acggagcgcc ggttctcagg gcttctggac ccgctgctgc cccagggggc gggcctgcgg 180  
 ctggtgggagc aggcctttca ctgccggctg cagggtcccc gccgggtgga caagcggacg 240  
 ctggtggagc tgcatggttt ccaggctcct gctgcccagg gtgccttcct gcgaggctcc 300  
 ggtctgagcc tggcctcggg tcggttcaag gccccgtgt ccggcatctt ccagttctct 360  
 gccagtctgc acgtggacca cagtgaagctg cagggcaagg cccggctgcg ggcccgggac 420  
 gtggtgtgtg ttctcatctg tattgagtcg ctgtgccagc gccacacgtg cctggaggcc 480  
 gtctcaggcc tggagagcaa cagcagggtc ttcacgctac aggtgcaggg gctgctgcag 540  
 ctgcaggctg gacagtacgc ttctgtgttt gtggacaatg gctccggggc cgtcctcacc 600  
 atccaggcgg gctccagctt ctccgggctg ctctctgggca cgcaccatca ccataccat 660

<210> 20  
 <211> 220  
 <212> PRT  
 <213> Homo sapiens

<400> 20  
 Lys Arg Cys Gly Ser Arg Asp Lys Lys Pro Arg Asp Leu Phe Gly Pro  
 1 5 10 15  
 Pro Gly Pro Pro Gly Ala Glu Val Thr Ala Glu Thr Leu Leu His Glu  
 20 25 30  
 Phe Gln Glu Leu Leu Lys Glu Ala Thr Glu Arg Arg Phe Ser Gly Leu  
 35 40 45  
 Leu Asp Pro Leu Leu Pro Gln Gly Ala Gly Leu Arg Leu Val Gly Glu  
 50 55 60  
 Ala Phe His Cys Arg Leu Gln Gly Pro Arg Arg Val Asp Lys Arg Thr  
 65 70 75 80  
 Leu Val Glu Leu His Gly Phe Gln Ala Pro Ala Ala Gln Gly Ala Phe  
 85 90 95  
 Leu Arg Gly Ser Gly Leu Ser Leu Ala Ser Gly Arg Phe Thr Ala Pro  
 100 105 110  
 Val Ser Gly Ile Phe Gln Phe Ser Ala Ser Leu His Val Asp His Ser  
 115 120 125  
 Glu Leu Gln Gly Lys Ala Arg Leu Arg Ala Arg Asp Val Val Cys Val  
 130 135 140  
 Leu Ile Cys Ile Glu Ser Leu Cys Gln Arg His Thr Cys Leu Glu Ala  
 145 150 155 160  
 Val Ser Gly Leu Glu Ser Asn Ser Arg Val Phe Thr Leu Gln Val Gln

165 170 175

Gly Leu Leu Gln Leu Gln Ala Gly Gln Tyr Ala Ser Val Phe Val Asp  
180 185 190

Asn Gly Ser Gly Ala Val Leu Thr Ile Gln Ala Gly Ser Ser Phe Ser  
195 200 205

Gly Leu Leu Leu Gly Thr His His His His His His  
210 215 220

<210> 21  
<211> 654  
<212> DNA  
<213> Homo sapiens

<400> 21

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cgccggttct	cagggttct	ggacccgctg	ctgccccagg	ggcggggcct	gcggctgggtg	180
ggcgaggcct	ttcactgccg	gctgcagggt	ccccgccggg	tggacaagcg	gacgtgggtg	240
gagctgcatg	gtttccaggc	tctgctgcc	caaggtgcct	tctgcgagg	ctccggtctg	300
agcctggcct	cgggtcgggt	cacggcccc	gtgtccggca	tcttcagtt	ctctgccagt	360
ctgcacgtgg	accacagtga	gctgcagggc	aaggcccggc	tgcgggcccg	ggacgtgggtg	420
tgtgttctca	tctgtattga	gtccctgtgc	cagcgccaca	cgtgcctgga	ggccgtctca	480
ggcctggaga	gcaacagcag	ggtcttcacg	ctacaggtgc	aggggctgct	gcagctgcag	540
gctggacagt	acgcttctgt	gtttgtggac	aatggctccg	gggccgtcct	caccatccag	600
gcgggctcca	gcttctccgg	gctgctcctg	ggca'cgcacc	atcaccatca	ccat	654

<210> 22  
<211> 218  
<212> PRT  
<213> Homo sapiens

<400> 22

Cys Gly Ser Arg Asp Lys Lys Pro Arg Asp Leu Phe Gly Pro Pro Gly  
1 5 10 15

Pro Pro Gly Ala Glu Val Thr Ala Glu Thr Leu Leu His Glu Phe Gln  
20 25 30

Glu Leu Leu Lys Glu Ala Thr Glu Arg Arg Phe Ser Gly Leu Leu Asp  
35 40 45

Pro Leu Leu Pro Gln Gly Ala Gly Leu Arg Leu Val Gly Glu Ala Phe  
50 55 60

His Cys Arg Leu Gln Gly Pro Arg Arg Val Asp Lys Arg Thr Leu Val  
65 70 75 80

Glu Leu His Gly Phe Gln Ala Pro Ala Ala Gln Gly Ala Phe Leu Arg  
85 90 95

Gly Ser Gly Leu Ser Leu Ala Ser Gly Arg Phe Thr Ala Pro Val Ser  
100 105 110

Gly Ile Phe Gln Phe Ser Ala Ser Leu His Val Asp His Ser Glu Leu  
115 120 125

Gln Gly Lys Ala Arg Leu Arg Ala Arg Asp Val Val Cys Val Leu Ile  
130 135 140

Cys Ile Glu Ser Leu Cys Gln Arg His Thr Cys Leu Glu Ala Val Ser  
145 150 155 160

Gly Leu Glu Ser Asn Ser Arg Val Phe Thr Leu Gln Val Gln Gly Leu  
165 170 175

Leu Gln Leu Gln Ala Gly Gln Tyr Ala Ser Val Phe Val Asp Asn Gly  
180 185 190

Ser Gly Ala Val Leu Thr Ile Gln Ala Gly Ser Ser Phe Ser Gly Leu  
195 200 205

Leu Leu Gly Thr His His His His His His  
210 215

<210> 23  
<211> 528  
<212> DNA  
<213> Homo sapiens

<400> 23  
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catggtttcc aggtcctgc tgcccaaggt gccttctctgc gaggtccgg tctgagcctg 180  
gcctcgggtc ggttcacggc ccccggtgcc ggcattcttc agttctctgc cagtctgcac 240  
gtggaccaca gtgagctgca gggcaaggcc cggctgcggg cccgggacgt ggtgtgtgtt 300  
ctcatctgta ttgagtcctt gtgccagcgc cacacgtgcc tggaggccgt ctcaggcctg 360  
gagagcaaca gcagggtctt cacgctacag gtgcaggggc tgctgcagct gcaggctgga 420  
cagtacgctt ctgtgtttgt ggacaatggc tccggggccg tcttcaccat ccaggcgggc 480  
tccagcttct ccgggctgct cctgggcacg caccatcacc atcaccat 528

<210> 24  
<211> 176  
<212> PRT  
<213> Homo sapiens

<400> 24  
Phe Ser Gly Leu Leu Asp Pro Leu Leu Pro Gln Gly Ala Gly Leu Arg  
1 5 10 15

Leu Val Gly Glu Ala Phe His Cys Arg Leu Gln Gly Pro Arg Arg Val  
20 25 30

Asp Lys Arg Thr Leu Val Glu Leu His Gly Phe Gln Ala Pro Ala Ala  
35 40 45

Gln Gly Ala Phe Leu Arg Gly Ser Gly Leu Ser Leu Ala Ser Gly Arg  
50 55 60

Phe Thr Ala Pro Val Ser Gly Ile Phe Gln Phe Ser Ala Ser Leu His  
 65 70 75 80  
 Val Asp His Ser Glu Leu Gln Gly Lys Ala Arg Leu Arg Ala Arg Asp  
 85 90 95  
 Val Val Cys Val Leu Ile Cys Ile Glu Ser Leu Cys Gln Arg His Thr  
 100 105 110  
 Cys Leu Glu Ala Val Ser Gly Leu Glu Ser Asn Ser Arg Val Phe Thr  
 115 120 125  
 Leu Gln Val Gln Gly Leu Leu Gln Leu Gln Ala Gly Gln Tyr Ala Ser  
 130 135 140  
 Val Phe Val Asp Asn Gly Ser Gly Ala Val Leu Thr Ile Gln Ala Gly  
 145 150 155 160  
 Ser Ser Phe Ser Gly Leu Leu Leu Gly Thr His His His His His His  
 165 170 175

<210> 25  
 <211> 435  
 <212> DNA  
 <213> Homo sapiens

<400> 25  
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 ttctgcgag gctccggtct gagcctggcc tcgggtcgggt tcacggcccc cgtgtccggc 120  
 atcttcagat tctctgccag tctgcacgtg gaccacagt agctgcagg caaggcccgg 180  
 ctgcgggccc gggacgtggt gtgtgttctc atctgtattg agtccctgtg ccagcgccac 240  
 acgtgcctgg aggcgtctc aggcctggag agcaacagca gggctctcac gctacaggtg 300  
 caggggctgc tgcagctgca ggctggacag tacgttctg tgtttgtgga caatggctcc 360  
 ggggcccgtc tcaccatcca ggcgggctcc agcttctccg ggctgctcct gggcacgcac 420  
 catcaccatc accat 435

<210> 26  
 <211> 145  
 <212> PRT  
 <213> Homo sapiens

<400> 26  
 Val Asp Lys Arg Thr Leu Val Glu Leu His Gly Phe Gln Ala Pro Ala  
 1 5 10 15  
 Ala Gln Gly Ala Phe Leu Arg Gly Ser Gly Leu Ser Leu Ala Ser Gly  
 20 25 30  
 Arg Phe Thr Ala Pro Val Ser Gly Ile Phe Gln Phe Ser Ala Ser Leu  
 35 40 45  
 His Val Asp His Ser Glu Leu Gln Gly Lys Ala Arg Leu Arg Ala Arg  
 50 55 60

Asp Val Val Cys Val Leu Ile Cys Ile Glu Ser Leu Cys Gln Arg His  
65 70 75 80

Thr Cys Leu Glu Ala Val Ser Gly Leu Glu Ser Asn Ser Arg Val Phe  
85 90 95

Thr Leu Gln Val Gln Gly Leu Leu Gln Leu Gln Ala Gly Gln Tyr Ala  
100 105 110

Ser Val Phe Val Asp Asn Gly Ser Gly Ala Val Leu Thr Ile Gln Ala  
115 120 125

Gly Ser Ser Phe Ser Gly Leu Leu Leu Gly Thr His His His His His  
130 135 140

His  
145

<210> 27  
<211> 423  
<212> DNA  
<213> Homo sapiens

<400> 27  
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tctgccagtc tgcacgtgga ccacagttag ctgcagggca aggcccggt gcgggcccgg 180  
gacgtggtgt gtgttctcat ctgtattgag tccctgtgcc agcgccacac gtgcctggag 240  
gccgtctcag gcctggagag caacagcagg gtcttcacgc tacagggtgca ggggctgctg 300  
cagctgcagg ctggacagta cgcttctgtg tttgtggaca atggctccgg ggccgtcctc 360  
accatccagg cgggctccag cttctccggg ctgctcctgg gcacgcacca tcaccatcac 420  
cat 423

<210> 28  
<211> 141  
<212> PRT  
<213> Homo sapiens

<400> 28  
Thr Leu Val Glu Leu His Gly Phe Gln Ala Pro Ala Ala Gln Gly Ala  
1 5 10 15

Phe Leu Arg Gly Ser Gly Leu Ser Leu Ala Ser Gly Arg Phe Thr Ala  
20 25 30

Pro Val Ser Gly Ile Phe Gln Phe Ser Ala Ser Leu His Val Asp His  
35 40 45

Ser Glu Leu Gln Gly Lys Ala Arg Leu Arg Ala Arg Asp Val Val Cys  
50 55 60

Val Leu Ile Cys Ile Glu Ser Leu Cys Gln Arg His Thr Cys Leu Glu  
65 70 75 80



Ala Val Ser Gly Leu Glu Ser Asn Ser Arg Val Phe Thr Leu Gln Val  
85 90 95

Gln Gly Leu Leu Gln Leu Gln Ala Gly Gln Tyr Ala Ser Val Phe Val  
100 105 110

Asp Asn Gly Ser Gly Ala Val Leu Thr Ile Gln Ala Gly Ser Ser Phe  
115 120 125

Ser Gly Leu Leu Leu Gly Thr His His His His His His  
130 135 140

<210> 29  
<211> 906  
<212> DNA  
<213> Homo sapiens

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gggggcgctc gggcccggcg ggaggcacag aggacgcagc agcctggcca gcgcgcagat 120  
ccccccaacg ccaccgccag cgcgtcctcc cgcgaggggc tgcccgaggc cccaagcca 180  
tcccaggcct caggacctga gttctccgac gccacatga catggctgaa ctttgtccgg 240  
cgcccgagac acggcgctt aaggaagcgg tgcggaagca gggacaagaa gccgcgggat 300  
ctcttcggtc cccagggacc tccaggtgca gaagtgaccg cggagactct gcttcacgag 360  
tttcaggagc tgctgaaaga ggccacggag cgcgggttct cagggttct ggaccgctg 420  
ctgccccagg gggcgggctt gcggtggtg ggcgaggcct ttcactgccg gctgcagggt 480  
ccccgcggg tggacaagcg gacgtggtg gagctgcatg gtttccaggc tctgctgcc 540  
caaggtgcct tctgcgagg ctccggtctg agcctggcct cgggtcgggt caccgcccc 600  
gtgtccggca tcttcagtt ctctgccagt ctgcacgtg accacagtga gctgcagggc 660  
aaggcccggc tgcgggcccg ggacgtggtg tgtgttctca tctgtattga gtccctgtgc 720  
cagcgccaca cgtgcctgga ggccgtctca ggctggaga gcaacagcag ggtcttcacg 780  
ctacaggtgc aggggtgct gcagctgcag gctggacagt acgcttctgt gtttgtggac 840  
aatggctccg gggcgtcct caccatccag gcgggtcca gcttctccg gctgctcctg 900  
ggcacg 906

<210> 30  
<211> 302  
<212> PRT  
<213> Homo sapiens

<400> 30  
Met Arg Arg Trp Ala Trp Ala Ala Val Val Val Leu Leu Gly Pro Gln  
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Leu Val Leu Leu Gly Gly Val Gly Ala Arg Arg Glu Ala Gln Arg Thr  
20 25 30

Gln Gln Pro Gly Gln Arg Ala Asp Pro Pro Asn Ala Thr Ala Ser Ala  
35 40 45

Ser Ser Arg Glu Gly Leu Pro Glu Ala Pro Lys Pro Ser Gln Ala Ser  
50 55 60

Gly Pro Glu Phe Ser Asp Ala His Met Thr Trp Leu Asn Phe Val Arg  
65 70 75 80

Arg Pro Asp Asp Gly Ala Leu Arg Lys Arg Cys Gly Ser Arg Asp Lys  
                     85                    90                    95  
 Lys Pro Arg Asp Leu Phe Gly Pro Pro Gly Pro Pro Gly Ala Glu Val  
                     100                    105                    110  
 Thr Ala Glu Thr Leu Leu His Glu Phe Gln Glu Leu Leu Lys Glu Ala  
                     115                    120                    125  
 Thr Glu Arg Arg Phe Ser Gly Leu Leu Asp Pro Leu Leu Pro Gln Gly  
                     130                    135                    140  
 Ala Gly Leu Arg Leu Val Gly Glu Ala Phe His Cys Arg Leu Gln Gly  
                     145                    150                    155                    160  
 Pro Arg Arg Val Asp Lys Arg Thr Leu Val Glu Leu His Gly Phe Gln  
                     165                    170                    175  
 Ala Pro Ala Ala Gln Gly Ala Phe Leu Arg Gly Ser Gly Leu Ser Leu  
                     180                    185                    190  
 Ala Ser Gly Arg Phe Thr Ala Pro Val Ser Gly Ile Phe Gln Phe Ser  
                     195                    200                    205  
 Ala Ser Leu His Val Asp His Ser Glu Leu Gln Gly Lys Ala Arg Leu  
                     210                    215                    220  
 Arg Ala Arg Asp Val Val Cys Val Leu Ile Cys Ile Glu Ser Leu Cys  
                     225                    230                    235                    240  
 Gln Arg His Thr Cys Leu Glu Ala Val Ser Gly Leu Glu Ser Asn Ser  
                     245                    250                    255  
 Arg Val Phe Thr Leu Gln Val Gln Gly Leu Leu Gln Leu Gln Ala Gly  
                     260                    265                    270  
 Gln Tyr Ala Ser Val Phe Val Asp Asn Gly Ser Gly Ala Val Leu Thr  
                     275                    280                    285  
 Ile Gln Ala Gly Ser Ser Phe Ser Gly Leu Leu Leu Gly Thr  
                     290                    295                    300

<210> 31  
 <211> 924  
 <212> DNA  
 <213> Homo sapiens

<400> 31  
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 gggggcgctc gggcccggcg ggaggcacag aggacgcagc agcctggcca gcgcgcagat 120  
 ccccccaacg ccaccgccag cgcgtcctcc cgcgaggggc tgcccgaggc cccaagcca 180  
 tcccaggcct caggacctga gttctccgac gccacatga catggctgaa ctttgtccgg 240  
 cggccggacg acggcgccct aaggaagcgg tcggaagca gggacaagaa gccgcgggat 300  
 ctcttcggtc cccagggacc tccaggtgca gaagtgaccg cggagactct gcttcacgag 360

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tttcaggagc tgctgaaaga ggccacggag cgcgggttct cagggcttct ggacccgctg 420
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ccccgccggg tggacaagcg gacgctggtg gagctgcatg gtttccaggc tctgtctgcc 540
caagggtgct tctgcgagg ctccggtctg agcctggcct cgggtcggtt cacggccccc 600
gtgtccggca tcttccagtt ctctgccagt ctgcacgtgg accacagtga gctgcagggc 660
aaggcccggc tgcgggcccg ggacgtggtg tgtgttctca tctgtattga gtccctgtgc 720
cagcgccaca cgtgcctgga ggccgtctca ggcctggaga gcaacagcag ggtcttcacg 780
ctacagggtg aggggctgct gcagctgcag gctggacagt acgcttctgt gtttgtggac 840
aatggctccg gggccgtcct caccatccag gcgggctcca gcttctccg gctgctcctg 900
ggcacgcacc atcaccatca ccat 924

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<210> 32
<211> 308
<212> PRT
<213> Homo sapiens

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<400> 32
Met Arg Arg Trp Ala Trp Ala Val Val Val Leu Leu Gly Pro Gln
1 5 10 15

Leu Val Leu Leu Gly Gly Val Gly Ala Arg Arg Glu Ala Gln Arg Thr
20 25 30

Gln Gln Pro Gly Gln Arg Ala Asp Pro Pro Asn Ala Thr Ala Ser Ala
35 40 45

Ser Ser Arg Glu Gly Leu Pro Glu Ala Pro Lys Pro Ser Gln Ala Ser
50 55 60

Gly Pro Glu Phe Ser Asp Ala His Met Thr Trp Leu Asn Phe Val Arg
65 70 75 80

Arg Pro Asp Asp Gly Ala Leu Arg Lys Arg Cys Gly Ser Arg Asp Lys
85 90 95

Lys Pro Arg Asp Leu Phe Gly Pro Pro Gly Pro Pro Gly Ala Glu Val
100 105 110

Thr Ala Glu Thr Leu Leu His Glu Phe Gln Glu Leu Leu Lys Glu Ala
115 120 125

Thr Glu Arg Arg Phe Ser Gly Leu Leu Asp Pro Leu Leu Pro Gln Gly
130 135 140

Ala Gly Leu Arg Leu Val Gly Glu Ala Phe His Cys Arg Leu Gln Gly
145 150 155 160

Pro Arg Arg Val Asp Lys Arg Thr Leu Val Glu Leu His Gly Phe Gln
165 170 175

Ala Pro Ala Ala Gln Gly Ala Phe Leu Arg Gly Ser Gly Leu Ser Leu
180 185 190

Ala Ser Gly Arg Phe Thr Ala Pro Val Ser Gly Ile Phe Gln Phe Ser
195 200 205

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Ala Ser Leu His Val Asp His Ser Glu Leu Gln Gly Lys Ala Arg Leu  
210 215 220

Arg Ala Arg Asp Val Val Cys Val Leu Ile Cys Ile Glu Ser Leu Cys  
225 230 235 240

Gln Arg His Thr Cys Leu Glu Ala Val Ser Gly Leu Glu Ser Asn Ser  
245 250 255

Arg Val Phe Thr Leu Gln Val Gln Gly Leu Leu Gln Leu Gln Ala Gly  
260 265 270

Gln Tyr Ala Ser Val Phe Val Asp Asn Gly Ser Gly Ala Val Leu Thr  
275 280 285

Ile Gln Ala Gly Ser Ser Phe Ser Gly Leu Leu Leu Gly Thr His His  
290 295 300

His His His His  
305

<210> 33  
<211> 831  
<212> DNA  
<213> Homo sapiens

<400> 33  
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cctgagttct ccgacgccc catgacatgg ctgaactttg tccggcgggc ggacgacggc 180  
gccttaagga agcggtgccg aagcagggac aagaagccgc gggatctctt cggccccca 240  
ggacctccag gtgcagaagt gaccgcggag actctgcttc acgagtttca ggagctgctg 300  
aaagaggcca cggagcgccg gttctcaggg cttctggacc cgctgctgcc ccagggggcg 360  
ggcctgccc tggtgggcca ggcctttcac tgccggctgc aggggtccccg ccgggtggac 420  
aagcggacgc tggtggagct gcatggtttc caggctcctg ctgccaagg tgccttctg 480  
cgaggctccg gtctgagcct ggcctcgggt cggttcacgg ccccctgtc cggcatcttc 540  
cagttctctg ccagtctgca cgtggaccac agtgagctgc agggcaagg ccggctgccc 600  
gcccgggacg tggtgtgtgt tctcatctgt attgagtcac tgtgccagcg ccacacgtgc 660  
ctggaggccg tctcaggcct ggagagcaac agcagggtct tcacgctaca ggtgcagggg 720  
ctgctgcagc tgcaggctgg acagtacgct tctgtgtttg tggacaatgg ctccggggcc 780  
gtcctcacca tccaggcggg ctccagcttc tccgggctgc tectgggcac g 831

<210> 34  
<211> 277  
<212> PRT  
<213> Homo sapiens

<400> 34  
Arg Arg Glu Ala Gln Arg Thr Gln Gln Pro Gly Gln Arg Ala Asp Pro  
1 5 10 15

Pro Asn Ala Thr Ala Ser Ala Ser Ser Arg Glu Gly Leu Pro Glu Ala  
20 25 30

Pro Lys Pro Ser Gln Ala Ser Gly Pro Glu Phe Ser Asp Ala His Met  
           35                          40                          45  
 Thr Trp Leu Asn Phe Val Arg Arg Pro Asp Asp Gly Ala Leu Arg Lys  
           50                          55                          60  
 Arg Cys Gly Ser Arg Asp Lys Lys Pro Arg Asp Leu Phe Gly Pro Pro  
   65                          70                          75                          80  
 Gly Pro Pro Gly Ala Glu Val Thr Ala Glu Thr Leu Leu His Glu Phe  
                           85                          90                          95  
 Gln Glu Leu Leu Lys Glu Ala Thr Glu Arg Arg Phe Ser Gly Leu Leu  
                          100                         105                         110  
 Asp Pro Leu Leu Pro Gln Gly Ala Gly Leu Arg Leu Val Gly Glu Ala  
          115                         120                         125  
 Phe His Cys Arg Leu Gln Gly Pro Arg Arg Val Asp Lys Arg Thr Leu  
          130                         135                         140  
 Val Glu Leu His Gly Phe Gln Ala Pro Ala Ala Gln Gly Ala Phe Leu  
  145                         150                         155                         160  
 Arg Gly Ser Gly Leu Ser Leu Ala Ser Gly Arg Phe Thr Ala Pro Val  
                          165                         170                         175  
 Ser Gly Ile Phe Gln Phe Ser Ala Ser Leu His Val Asp His Ser Glu  
                          180                         185                         190  
 Leu Gln Gly Lys Ala Arg Leu Arg Ala Arg Asp Val Val Cys Val Leu  
          195                         200                         205  
 Ile Cys Ile Glu Ser Leu Cys Gln Arg His Thr Cys Leu Glu Ala Val  
          210                         215                         220  
 Ser Gly Leu Glu Ser Asn Ser Arg Val Phe Thr Leu Gln Val Gln Gly  
  225                         230                         235                         240  
 Leu Leu Gln Leu Gln Ala Gly Gln Tyr Ala Ser Val Phe Val Asp Asn  
                          245                         250                         255  
 Gly Ser Gly Ala Val Leu Thr Ile Gln Ala Gly Ser Ser Phe Ser Gly  
                          260                         265                         270  
 Leu Leu Leu Gly Thr  
          275

<210> 35  
 <211> 849  
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catcacat

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<212> PRT
<213> Homo sapiens

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Pro Lys Pro Ser Gln Ala Ser Gly Pro Glu Phe Ser Asp Ala His Met
35     40     45
Thr Trp Leu Asn Phe Val Arg Arg Pro Asp Asp Gly Ala Leu Arg Lys
50     55     60
Arg Cys Gly Ser Arg Asp Lys Lys Pro Arg Asp Leu Phe Gly Pro Pro
65     70     75     80
Gly Pro Pro Gly Ala Glu Val Thr Ala Glu Thr Leu Leu His Glu Phe
85     90     95
Gln Glu Leu Leu Lys Glu Ala Thr Glu Arg Arg Phe Ser Gly Leu Leu
100    105    110
Asp Pro Leu Leu Pro Gln Gly Ala Gly Leu Arg Leu Val Gly Glu Ala
115    120    125
Phe His Cys Arg Leu Gln Gly Pro Arg Arg Val Asp Lys Arg Thr Leu
130    135    140
Val Glu Leu His Gly Phe Gln Ala Pro Ala Ala Gln Gly Ala Phe Leu
145    150    155    160
Arg Gly Ser Gly Leu Ser Leu Ala Ser Gly Arg Phe Thr Ala Pro Val
165    170    175
Ser Gly Ile Phe Gln Phe Ser Ala Ser Leu His Val Asp His Ser Glu

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180	185	190
Leu Gln Gly Lys Ala Arg Leu Arg Ala Arg Asp Val Val Cys Val Leu	195	200 205
Ile Cys Ile Glu Ser Leu Cys Gln Arg His Thr Cys Leu Glu Ala Val	210	215 220
Ser Gly Leu Glu Ser Asn Ser Arg Val Phe Thr Leu Gln Val Gln Gly	225	230 235 240
Leu Leu Gln Leu Gln Ala Gly Gln Tyr Ala Ser Val Phe Val Asp Asn	245	250 255
Gly Ser Gly Ala Val Leu Thr Ile Gln Ala Gly Ser Ser Phe Ser Gly	260	265 270
Leu Leu Leu Gly Thr His His His His His His	275	280

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24

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<210> 46  
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<400> 47  
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<210> 48  
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<220>  
 <223> Primer T3

<400> 48  
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<400> 49  
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Val Leu Leu Gly Pro Gln Leu Val Leu Leu Gly Gly Val Gly Ala Arg	15	20	25	
cgg gag gca cag agg acg cag cag cct ggc cag cgc gca gat ccc ccc				148
Arg Glu Ala Gln Arg Thr Gln Gln Pro Gly Gln Arg Ala Asp Pro Pro	30	35	40	
aac gcc acc gcc agc gcg tcc tcc cgc gag ggg ctg ccc gag gcc ccc				196
Asn Ala Thr Ala Ser Ala Ser Ser Arg Glu Gly Leu Pro Glu Ala Pro	45	50	55	
aag cca tcc cag gcc tca gga cct gag ttc tcc gac gcc cac atg aca				244
Lys Pro Ser Gln Ala Ser Gly Pro Glu Phe Ser Asp Ala His Met Thr	60	65	70	
tgg ctg aac ttt gtc cgg cgg ccg gac gac ggc gcc tta agg aag cgg				292
Trp Leu Asn Phe Val Arg Arg Pro Asp Asp Gly Ala Leu Arg Lys Arg	75	80	85	90
tgc gga agc agg gac aag aag ccg cgg gat ctc ttc ggt ccc cca gga				340
Cys Gly Ser Arg Asp Lys Lys Pro Arg Asp Leu Phe Gly Pro Pro Gly	95	100	105	
cct cca ggt gca gaa gtg acc gcg gag act ctg ctt cac gag ttt cag				388
Pro Pro Gly Ala Glu Val Thr Ala Glu Thr Leu Leu His Glu Phe Gln	110	115	120	
gag ctg ctg aaa gag gcc acg gag cgc cgg ttc tca ggg ctt ctg gac				436
Glu Leu Leu Lys Glu Ala Thr Glu Arg Arg Phe Ser Gly Leu Leu Asp	125	130	135	
ccg ctg ctg ccc cag ggg gcg ggc ctg cgg ctg gtg ggc gag gcc ttt				484
Pro Leu Leu Pro Gln Gly Ala Gly Leu Arg Leu Val Gly Glu Ala Phe	140	145	150	
cac tgc cgg ctg cag ggt ccc cgc cgg gtg gac aag cgg acg ctg gtg				532
His Cys Arg Leu Gln Gly Pro Arg Arg Val Asp Lys Arg Thr Leu Val	155	160	165	170
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Glu Leu His Gly Phe Gln Ala Pro Ala Ala Gln Gly Ala Phe Leu Arg	175	180	185	
ggc tcc ggt ctg agc ctg gcc tcg ggt cgg ttc acg gcc ccc gtg tcc				628
Gly Ser Gly Leu Ser Leu Ala Ser Gly Arg Phe Thr Ala Pro Val Ser	190	195	200	
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Gly Ile Phe Gln Phe Ser Ala Ser Leu His Val Asp His Ser Glu Leu	205	210	215	
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Gln	Gly	Lys	Ala	Arg	Leu	Arg	Ala	Arg	Asp	Val	Val	Cys	Val	Leu	Ile		
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Cys	Ile	Glu	Ser	Leu	Cys	Gln	Arg	His	Thr	Cys	Leu	Glu	Ala	Val	Ser		
235					240					245					250		
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Gly	Leu	Glu	Ser	Asn	Ser	Arg	Val	Phe	Thr	Leu	Gln	Val	Gln	Gly	Leu		
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ctg	cag	ctg	cag	gct	gga	cag	tac	gct	tct	gtg	ttt	gtg	gac	aat	ggc	868	
Leu	Gln	Leu	Gln	Ala	Gly	Gln	Tyr	Ala	Ser	Val	Phe	Val	Asp	Asn	Gly		
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Ser	Gly	Ala	Val	Leu	Thr	Ile	Gln	Ala	Gly	Ser	Ser	Phe	Ser	Gly	Leu		
		285					290					295					
ctc	ctg	ggc	acg	t												929	
Leu	Leu	Gly	Thr														
300																	